GAS JOURNAL, APRIL 8, 1942

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EDITORIAL NOTES

SHOULDERS TO THE WHEEL

"ENERGETIC and energizing"—such was our impression of the wholly encouraging meeting which the Midland Association of Gas Engineers and Managers held in Birmingham last Thursday. The meeting—a long one, though without a moment's dullness—was the occasion of an informal Address by the Director-General of Gas Supply, and Dr. E. W. Smith, formerly intimately associated with the Birmingham Gas Department, met with a rousing welcome. His vigorous and stimulating Address, eagerly awaited, was followed by every one of his audience with keenness and appreciation. For a gas meeting, the atmosphere was positively electric—charged with potential and crispness. Formal business was discharged with a minimum of fuss and a maximum of efficiency under the Presidency of Mr. C. F. W. Rendle. This without resort to yellow, green, or red light-warnings.

A fortnight previously Dr. Smith had addressed the Southern Association. His remarks were recorded in the "JOURNAL" of March 25, and at the Midland meeting last Thursday he made gracious and complimentary reference to our report, which we found encouraging and for which we desire to thank him. The Press is much used to criticism; it invites rather than resents it, for which reason it is perhaps more hard bitten than thin-skinned and discovers blushes infrequent on its cheeks. There was, however, cause for pleasurable blushing in the comments of Dr. Smith, who urged that we should be taken more fully into the Industry's confidence—a plea which, in the general interest, we ourselves have put forward several times, and specifically before the Institution last June. As our readers know, the Director-General of Gas Supply has practised what he preaches. We have benefited, and it is indeed heartening to think that, through the confidence he has seen fit to repose in us, many others, too, may have benefited. Not naturally we look forward to continuance of this policy and its extension throughout the Industry.

Dr. Smith again strongly emphasized that the primary consideration, the immediate task, was to expend every ounce of energy in furtherance of the war effort, in which the Industry is unostentatiously playing an all-important part. At the same time, this basic, fundamental idea need not obliterate consideration of post-war plans for reconstruction, provided, of course, that the consideration paid does not in any way hinder the war effort. Planning is essential to the immediate war effort, and thought can and ought to be given in preparation for possible contingencies after the war. Such thought is surely far more profitable than morbid and disintegrating criticism. There is reason in plenty for everyone in the Industry to do all in every direction, and by both direct and indirect means to uphold the morale vital to the execution of its tasks. There is no place in the Industry either now or in the future for the parochial attitude or the petty spirit. Dr. Smith gave his assurance—and his conviction is obviously based on firm foundation—that at no period in the history of the Industry has its good name sounded fairer or its reputation stood higher in Government circles than obtains to-day. Such, in brief, is our interpretation of the tenor of Dr. Smith's inspiring message.

The Address, however, was more than a message; it was also a call for action—for action individually and collectively. In this regard Dr. Smith welcomed the setting-up in the Midland area, at the instigation, it should be recorded, of the Association, of a Mutual Assistance Panel designed to overcome difficulties speedily, without friction, and free from any thought of self-aggrandizement. He referred to the appointment of liaison officers and expressed his pleasure that this idea also originated in the Midland area, in which region the scheme is working smoothly and most advantageously. He welcomed, too, the establishment of the Industry's Post-War Planning Committee—the ultimate focus for post-war reconstruction. It is realized quite clearly in Government circles that the Gas Industry must be radically rationalized, must become a national Industry having co-ordination as its keynote. For this evolution, with emphasis on *evolution*, regional energies and the formulation of district views are, as we have pointed out, imperative.

The meeting in Birmingham last week was to our mind indicative of a new vigour within the Industry—a galvanic vigour. It was, as we have said, a long meeting, but the exciting pace set at the start was sustained without a sign of flagging. At the outset the President invited questions uppermost in members' minds. To an intensive barrage Dr. Smith had confident, reassuring, and practical and helpful reply. Both questions and replies were fitting to the hour, among the subjects discussed being coal supplies with reference to both quantity and suitability, labour problems, financial commitments and their possible amelioration, calorific value adjustment, water gas production, benzole recovery, gas charges, and gas rationing. Throughout, every speaker kept to the point—words in plenty but no verbosity. It was a thoroughly successful meeting of enthusiasts determined to grapple with current problems whatever their nature and whatever their implications. The dead-centre in Gas Industry evolution has, we think, been passed.

THE INDUSTRY IN NORTHERN IRELAND

SHORTLY before taking this issue of the "JOURNAL" to press, intimation was received of the fact that at a meeting of the gas engineers of Northern Ireland, held in Belfast on March 20, it was decided to form a new Northern Ireland Association of Gas Managers, "to look after the interests of the Gas Industry in Northern Ireland, and to meet periodically to discuss matters of mutual interest." We take the earliest opportunity to express our most cordial good wishes for the success of this new organization, and to assure its sponsors of all the assistance which it may be within the power of the "JOURNAL" to afford. In reality, such an assurance on our part is superfluous, because the activities of such an Association cannot fail to be of benefit to the Gas Industry, which is our sole regard.

If memory serves aright, this is not the first occasion on which steps have been taken to form an Association for Northern Ireland during recent years, but we do not recall—if ever we knew—what was the ultimate result of such steps. In circumstances as they are to-day, bringing their own urgent and vital problems, the need for self-expression is more clamant; and the fact that the formation of this new Association has been supported by every Gas Manager in Northern Ireland will command the fullest possible consideration for its views. Mr. J. L. Hyslop, who has succeeded Mr. J. D. Smith as Engineer and Manager of the Belfast Corporation Gas-Works, has been appointed Chairman, with Mr. Allan Robin, also of the Belfast Corporation Gas Department, as Secretary and Treasurer. The Gas Industry has long been accustomed to look to Belfast, and here is yet another connexion in which it will continue to do so.

In more normal conditions, we should have welcomed a decision to form a Northern Section and a Southern Section of the Irish Association of Gas Managers, which has accomplished much solid good work, frequently in face of special difficulties,

and always confronted by problems arising from distances and population. The zealous, untiring work, over so long a period, on behalf of the Association, of Whimster of Armagh, Norman of Dublin, and Airth of Dundalk, has built up an edifice which should endure. It has been at meetings of the Irish Association that we have, on a number of occasions, had the pleasure of meeting both Mr. Hyslop and Mr. Robin. One of these occasions was eight years ago, when Mr. Hyslop was President. Those who remember that meeting can have no doubt that he will prove a thoroughly efficient Chairman of the newly formed Northern Ireland Association of Gas Managers.

ADVERTISING IN WARTIME

NOTHING whatever must stand in the way of the war effort; that is common ground. Things good in themselves must be sacrificed if the sacrifice is necessary to win the war, or to win it more quickly. Advertising must be judged on its merits in the light of that principle. In so far as it represents a hindrance to the war effort, or a dissipation of resources or energy on unessentials, it is justly condemned. In so far as it can be shown to be helping in the war effort, however indirectly, or in the preservation of that for which we are fighting, it should be encouraged as far as circumstances will allow. We think that these sentiments expressed in a pamphlet issued by the Advertising Association explaining the functions of advertising under wartime conditions will meet with general approval, and we certainly commend them at a time when many people may perhaps be puzzled by its continuance when every unnecessary purchase is rightly condemned and belt-tightening is the order of the day. But the life of the public has to go on, and most of the present advertising is not so much offering inducements to purchase as helping the public in the task of adaptation to war conditions. The lot of the housewife is no easy one. She is helped by the announcements of the Ministry of Food and other Government departments; we think she would be worse off if she were deprived of the help and guidance of firms and undertakings whose goods and services are now in short supply. Much commercial advertising is, in fact, doing a job which would otherwise have to be done in other ways.

It is easy to say that firms and undertakings would not advertise unless they thought it was to their benefit, but we cannot regard this as an argument against the continuance of advertising. Even in the midst of war it is impossible to ignore the problems of reconstruction that will come after. Those who are advertising now to preserve goodwill—the probability that their customers will come back to them after the war—are consulting not only their own interests but the national interests as well. Moreover, advertising, especially that of large industrial organizations, undoubtedly has important social and educative effects. There is to our mind no doubt that the morale of all workers in an industry, and its relation to the public, may be greatly influenced by good advertising; numerous instances of helpful, encouraging, and inspiring wartime advertisements must be in everybody's mind. Advertising, too, provides necessary variety and relief in any newspaper, and the competitive element even in goodwill advertising is recognized to be distasteful and out of place, quickly defeats its purpose with the sentiments of the nation as they are, and—if needs be—can readily be checked. So let us continue with appropriate, stimulating, well-considered wartime advertising.

In this country prior to the war there was an intensive competitive publicity barrage between gas and electricity, some of the shells from both camps being dud, others effective, many vindictive. When war started the Gas Industry, in concert with its pre-war rival, decided to let the community know nothing, through advertising, of its services to the nation in wartime, though all the time it has co-operated to the full with Government departments. We will not question anew the wisdom of this policy of non-publicity; the matter has been discussed in our columns to an extent rendering further comment at this juncture superfluous and unprofitable. It is with interest, however, that we turn to the 1942 wartime publicity plans of the American Gas Industry, bearing in mind the vastly different conditions between our own country and the U.S.A. in 1940 and 1941—and, indeed, those obtaining at the present time, with America very much in the war. The contrast is vivid.

The American Gas Industry has a colourful background from which it approaches its new programme. Last year the Industry had 18½ million consumers—half a million more than it ever served. Revenue from sales was the highest ever recorded. No fewer than 2,200,000 gas cookers were sold, while water heaters showed an increase of 50%. These figures are sufficient to picture the state of affairs in 1941, and national advertising was in no small measure responsible for the results. It had led to public acceptance of gas.

It is, of course, recognized that the promotional methods used during the past few years will have to be materially changed, but it is felt that the advertising efforts should be continued, with due recognition of war conditions—efforts directed towards maintaining the high degree of public acceptance which the Industry now enjoys. There are, we learn, no plans for curtailment of advertising. In place of what has been "merchandise advertising," there will be educational and gas service advertising designed in national interest and calculated to preserve goodwill; and to this end the National Advertising Committee of the American Gas Association has decided on a programme for the promotion of those government-sponsored war activities which the Industry is singularly fitted to perform as an outstanding public service. This positive attitude to wartime advertising appeals to us, and while we may be forgiven for suggesting that America may have unpalatable wartime lessons to learn which will strongly influence propaganda, we look forward with keen interest to see what form the coming announcements of the American Gas Industry will take.

Personal

As from March 31 Mr. WILLIAM CASH, J.P., F.C.A., has resigned the Chairmanship and his seat on the Board of the South African Lighting Association, Ltd., after more than fifty-one years' connexion with the Company as Secretary, Director, and Chairman. He has been succeeded in the Chairmanship by Mr. T. N. G. JENNINGS, and the casual vacancy thus caused has been filled by the election of Mr. WILLIAM CASH, junior, M.A., F.C.A. Mr. William Cash, junior, has resigned his position as Secretary of the Association on his election to the Board, and the post of Secretary has been filled by the appointment of Mr. CYRIL CLAYTON.

Obituary

Many gas officials, particularly in the North, will be sorry to know that Mr. W. W. TOOLEY, of Leeds, Technical Service Representative, Radiation Ltd., died on March 16. By his sterling character, and the quiet, efficient way in which he carried out his work, he endeared himself to everyone who knew him.

* * *

The death took place on March 25 of Mr. CHARLES J. HOBDAY, who for more than thirty years has been associated with the Gas Industry as a travelling representative in the southern counties. For many years Mr. Hobday represented the Bland Light Company, and later took over agencies for the Wonder Washer Company and C.C. Fires, Ltd. Since 1935 he had been Southern Counties Representative for G. Hands & Co., Ltd. His cheerful character and youthful appearance indicated a much younger man than the 58 years recorded at the time of his death.

* * *

The death has occurred of Mr. HENRY GEORGE SMITH, who retired six years ago from the administration of the Rental and Fitting Department of the Swansea Gas Light Company after nearly 40 years' service.

The fact that goods made of raw materials in short supply owing to war conditions are advertised in the "Journal" should not be taken as an indication that they are necessarily available for export.

Letter to the Editor

The Standing of Gas

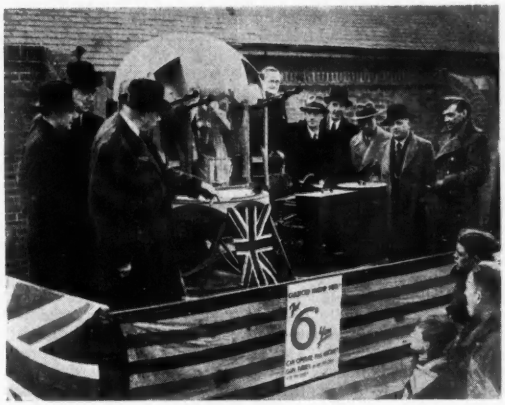
DEAR SIR,—I entirely agree with all that "Standard Bearer" wrote in his letter in your issue of March 25. Surely the "big" men in the Gas Industry can do more than appears to be the case, in keeping the value of the Industry before Parliament and the public. Electricity pre-war was boosted as being the be all and end all, but what happens to-day? Electricity carries on supplying its usual peacetime commodity, while gas undertakings are supplying spent oxide, benzole, ammonia, and gas retort carbon for war purposes.

With regard to P.W.P., the Co-ordination of Gas Undertakings Committee, in my opinion, is most important. A national or regional control is the only remedy, and until the control of all the small undertakings is taken out of the hands of parochial local authorities, the Industry will never speak with one voice.

Yours faithfully,
"PROGRESS."

March 30, 1942.

Guildford Warship Week



Guildford Gas Light & Coke Company, in co-operation with a well-known gas appliance manufacturer, featured a power-operated aircraft gun turret in the local Warship Week Exhibition. The demonstration was subsequently transferred to the Odeon Cinema and compered by Elsie and Doris Waters (Gert and Dais), with the result that Mr. Ernest A. Smith, Distribution Engineer, was able to hand the Mayor a cheque for £156.

Supporting the Charge in Vertical Retorts

Improved means for supporting the charge in an intermittent vertical retort during coke discharge, and for cutting off the charge from the coke being discharged, constitute the claim of a patent (No. 542,398; application date, Sept. 14, 1940) taken out by Sir F. J. West, E. West, and West's Gas Improvement Company, Ltd. In accordance with the invention, the charge in the retort is supported by swivelling fingers of hook form turning about vertical axes and arranged in two rows, one at each side of the retort below the base. The fingers are wedge shaped and their extreme ends are substantially pointed so that they readily penetrate the coke which is to be held between the two rows of fingers. The latter when moved fully into position to hold up the charge make what may be called impressions in the incandescent coke, but the two rows of fingers do not come close to one another.

Thus, in a retort which is about 16½ in. wide, there may be a distance of about 8¼ in. between the ends of the fingers in the two rows when they are the closest to one another, but the keying of the fingers into the charge ensures that it is effectively supported.

The fingers have holes at their undersides into which project cylindrical projections upon bar-like parts, located in metal frames extending one along each side of the retort beneath its base, the holes and projections forming the pivot or swivel points of the fingers. The bar-like parts also provide a supporting edge for the fingers behind the pivot points, and they can be moved longitudinally on suitable guiding ribs into and out of the metal frames if it is required to withdraw the fingers for inspection or other purposes. The movements of the fingers into and out of their operative positions is effected by movable bars having downwardly extending stud-like parts which enter holes in the fingers, all the latter in one row being operated by a single bar, which may be traversed by any suitable means. The operating bars can be withdrawn from the metal frames with the fingers and supporting bars as units. The metal frames or boxes are interposed between the retort and the coke chamber beneath. It is claimed that the amount of power required for moving the charge supporting means is minimized and that the use of heavy devices to effect such support is obviated.

Midland Association Meet in Birmingham

The Annual General Meeting of the Midland Association of Gas Engineers and Managers was held at the Offices of the Midland Counties Coke Association, Birmingham, on April 2, the President, Mr. C. F. W. RENDLE (Redditch) in the Chair.

The minutes of the last meeting having been taken as read and confirmed, the PRESIDENT asked the members to pay tribute to the memory of the late Mr. T. H. Poulson, Stafford, and Mr. C. F. Tooby, Coventry.

Proposed by Mr. C. M. D. BELTON (Shrewsbury) and seconded by Mr. A. L. ROBERTS (Hereford) the adoption was carried of the Annual Report and Statement of Accounts. In its report the Committee mentioned that it had investigated the minimum scale of salaries for chief and assistant gas engineers and had suggested data for the extension of the scale designed by The Institution of Gas Engineers. The Committee had also met to discuss the formation of an Advisory Panel of Gas Engineers to operate a scheme of assistance, in its broadest sense, designed to maintain and further the war effort of the Industry in the Midlands. Action had been taken with the advice and complete agreement of the Director-General of Gas Supply.

The following new members were elected during the year: K. L. Pearce (Bilston), A. D. Hill (Swadlincote), A. H. Lucas (Lichfield), A. Tran (Oxford), S. J. D. Williams (Stourbridge), and A. Winton (Stone).

It was announced by the HON. SECRETARY that Mr. G. Mitchell (Worcester) had been elected as a member of Committee in place of the late Mr. T. H. Poulson.

Commenting on the report, the PRESIDENT, who paid tribute to the Hon. Secretary, Mr. J. H. Wainwright, said that the item dealing with salaries covered a great deal of work, in which connexion he would like specially to mention the time devoted to the task by Mr. F. Davis (Walsall). Their report had received the fullest support of the Institution, and he could say that the reports on the question by the Manchester and Scottish Associations had also been sympathetically received. His own work on the Institution Council had been enjoyable, and he emphasized the desire of the Institution to get into closer contact with members in the districts. To-day, co-operation was more needed than ever. The Directorate of Gas Supply desired to know what those in the districts felt and thought; so did the Post-War Planning Committee; and so did the Editors of the Technical Press. He therefore made a plea for more meetings of the Association.

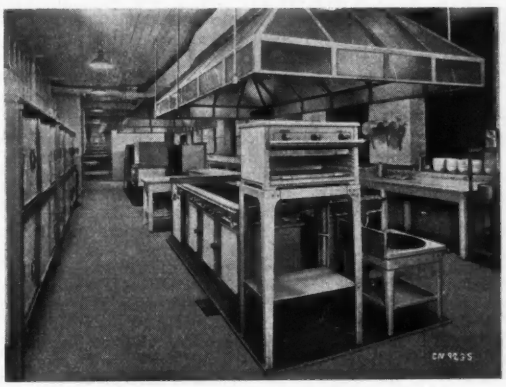
It was agreed that this course should be taken.

It was also agreed that £20 be allocated to the work of the Mutual Assistance Panel, and that the donation to the Benevolent Fund of The Institution of Gas Engineers be increased from 10 to 15 guineas for 1941 and that the amount be the same for 1942.

Mr. Rendle was appointed as the Association's representative on the Council of the Institution, and the following were appointed to represent the Association on the Midland District Education Committee: G. C. Pearson, C. F. W. Rendle, F. C. Briggs, and W. G. S. Cranmer.

Then came an informal Address by Dr. E. W. SMITH, C.B.E., F.I.C., Director-General of Gas Supply, an account of which will be found on the following page.

Canteen for a Munition Factory



Many of the mills in Yorkshire, which prior to the war were engaged in the manufacture of household commodities and wearing apparel, are now concentrating their energies on the war effort, and in one such mill Radiation Ltd. (Large Cooking Equipment Section) recently completed the installation of a kitchen to cater for 600 of the workpeople. The order included the supply of cooking apparatus, kitchen equipment, such as a potato peeler, sinks, shelves and tabling in the preparation rooms, tea and coffee making apparatus and hotclosets for the service, and dish-washing machines and sinks in the wash-up.

IMMEDIATE NEEDS—AND THE FUTURE

DR. E. W. SMITH REVIEWS THE INDUSTRY'S POSITION

On April 2 the Director-General of Gas Supply gave an informal Address to members of the Midland Association at their Annual Meeting in Birmingham. Mr. C. F. W. Rendle, of Redditch, presided over an enthusiastic audience which enjoyed and benefited by a vivid discussion. For several reasons our report is not verbatim. However, the following account does, we hope, translate the essential features of the Address and of the questions raised and answered.

The President, having welcomed Dr. Smith, and expressed the Association's appreciation of the presence of Mr. J. F. Ronca, Mr. Stephen Lacey, and Dr. W. T. K. Braunholtz, invited members to shoot queries at the Director-General of Gas Supply—an invitation which met with ready response. The questions, which we will take as read and the nature of which will be gathered from our synopsis of Dr. Smith's Address, included the matters of coal supplies, labour problems, financial commitments and possible assistance, calorific value adjustment, water gas production and benzole recovery, and gas charges and rationing.

In the course of his remarks Dr. Smith, who was accorded a rousing welcome, said that, in view of his past intimate association with the Birmingham Gas Department, he was especially proud to be able to talk to them quite informally on the future of the Gas Industry with particular reference to the war circumstances of the day. He continued:

A Vital Industry

The paramount consideration is that our time and our energies should be spent in doing all possible to further the immediate war effort, though consideration can well and wisely be given to plans for the post-war period provided such consideration in no way hinders the war effort. I have a great and firm-rooted belief in the future of the Gas Industry, but I think that it would be a good thing if some people, instead of forlornly regarding what appear to be difficulties and obstacles, would alter their attitude and indulge in a little criticism of themselves. Each one of us should do all in every direction, by direct and indirect means, to create morale to assist in the execution of our tasks. A running-down policy is to be deplored. Let us believe in our elected leaders and let us support them, not blindly, but by considered criticism and constructive suggestion. Let us bring our district committees together to discuss current problems.

Dr. Smith went on to say that Mr. Ronca had travelled about the country a great deal during the past six months, and he knew the Gas Industry was creating an excellent impression and that in fact its prestige never stood higher. The Industry should be aware of this and act accordingly. At present it suffered from lack of cohesion, and many within the Industry were unable to think of it in terms of one vast national service. The parochial spirit must be cut out. In Government circles it was recognized fully that the Gas Industry must be radically rationalized; it must become a national industry in which there was complete co-ordination.

Confide in the Press

Having paid tribute to the help which had been given by Mr. Ronca in speeding up matters which formerly could be implemented only slowly, Dr. Smith remarked that there was no need to describe in any detail the structure, aims and objects, and purpose of the Directorate of Gas Supply. The whole position in this regard had been admirably described and explained in the "GAS JOURNAL" of March 25 in its report of his Address to the Southern Association on March 20. In his opinion the Gas Press was to-day more virile, more constructive, and more knowledgeable than ever; and the Press, an important factor in the dissemination of knowledge and the creation of thought, should always be kept well informed. He urged upon them all that they should take the Press into their confidence.

This brought him to the Panel of Mutual Assistance formed by the Midland Association to maintain and further the war effort of the Gas Industry in the area covered by the Association. He thought that, to the extent which the Panel had asked for assistance from the Directorate of Gas Supply the help had been forthcoming. By evolutionary methods the scheme might well develop into a national effort, and individual undertakings should rid themselves of what was perhaps a natural pride in being reluctant to seek and accept assistance. Again—and he was proud of the fact—the idea of the appointment of liaison officers had originated in the Midland area, and he knew that in that area the appointment had given every satisfaction. The liaison officers selected had no previous knowledge of the workings of the Gas Industry, and Dr. Smith said he counted this as an advantage rather than otherwise. Indeed, there was in general a need for new blood in the Industry—men brought in from other industries and other undertakings. This applied to all sections—administrators, engineers, chemists, and accountants.

Now real development of a healthy kind could not take place in the absence of complete knowledge of all the facts relating to the Industry, and it was for this reason that they had formed a statistical department at the Board of Trade. An Advisory Committee was being set up, and they were inviting four or five representatives from the Gas Industry to offer their advice on the form which certain questionnaires could best take, and so on. This department would be available to any of the organized bodies in the Gas Industry, including, of course, the Post-War Planning Committee, which he regarded as the ultimate focus for post-war reconstruction.

In Reply to Questions

Dr. Smith then dealt with the questions which had been put by members. Matters relating to finance in relation to the war effort, he explained, should be addressed to Department I.M.3 at the Board of Trade, which Department was dealing with all questions needing legal amplification and subject to control. Sanctions for extensions could be granted only by the appropriate production department. As for carburetted water gas plant, authorization would not be made unless the need was shown to be particularly urgent; and it should be borne in mind that there was the reverse of a desire for a reduction in the output of coke. A Special Committee of the Heat Supplies Committee was considering the problem of labour in the Industry, and the regional labour officers were receiving the appropriate instructions. Dr. Smith thought that much good might accrue from a scheme of mutual help in pooling labour, from the interchange of labour required for specific purposes. He could not anticipate the recommendations in regard to the rationing of gas, but a scheme of rationing would be brought in. In regard to gas prices, if the proposed increases were fully justified they would be granted without difficulty. Maximum benzole recovery was, of course, desired.

Concluding his remarks, Dr. Smith, who expressed appreciation of the welcome which had been given to him, emphasized that the primary task was to concentrate on immediate problems. Looking to the future, there would undoubtedly be a comprehensive change in the structure of the Gas Industry, and it was far better that the conclusions concerning this change should be developed and agreed upon within the Industry rather than imposed from without.

The P.W.P. Committee

Mr. Stephen Lacey, speaking as Convenor of the Post-War Planning Committee, said that the first duty of the Committee was to help in paving the way to enable the Industry to play its full part after the war and to look to the future of the Industry from a national point of view. At the same time, they must strain every nerve to serve their country in the immediate present. The Committee was anxious to consult the districts and to deal with recognized district groups. Several districts, including the South Wales, Manchester, and South-Western, had set about to formulate their ideas, and he hoped that something on the same lines would be done in the Midland area. There was need for tidying-up the internal organization of the Industry and for eliminating the existing overlapping between the various associations.

Mr. J. F. Ronca expressed his pleasure at being able to continue his activities in association with the Industry and particularly with Dr. Smith.

A vote of thanks to Dr. Smith for his Address was cordially carried on the proposition of Mr. A. H. Cranmer (Wolverhampton), seconded by Mr. G. C. Pearson (Birmingham).

Directorate of Gas Supply

The Director-General of Gas Supply, Board of Trade, has appointed Mr. E. Ivor David liaison officer for Wales. In addition, the area covered by Mr. Fisher from Manchester has been extended.

The amended list of representatives is as follows:

Region Nos. 1, 2, and 10 ..	A. Fisher, 22, Byrom Street, Manchester 3. (Telephone: Blackfriars 5706.)
Region No. 7	J. N. Hazeldon, 26, Baldwin Street, Bristol. (Telephone: Bristol 21944.)
Region No. 8	E. Ivor David, 34, Park Place, Cardiff. (Telephone: Cardiff 260.)
Region No. 9	C. W. Jamieson, Cavendish House, Waterloo Street, Birmingham 2. (Telephone: Central 7391.)

INSTITUTION RESEARCH REPORTS DISCUSSED

Critical and Laudatory Thoughts on I.G.E. Communications Nos. 244 and 245, and Gas Research Board Report No. 5, abstracts of which have been published in the "JOURNAL"

Gas Fellowship Reports (I.G.E. 244, 245) Criticized

[No. 244]

Mr. **A. B. Densham** (Gas Light & Coke Company) wrote: It is satisfactory that the flame velocities for ethylene and carbon monoxide measured by the improved method are within the scatter of values obtained by earlier experimenters (see 40th Report of Joint Research Committee).

The introduction of the "dead space" to account for the lack of agreement between mixture velocity and flame-speed at light-back is very interesting. If I understand the Authors correctly the flame-speed at light-back should be equal to the mixture velocity at a distance from the burner wall equal to the "dead space."

Unfortunately, analysis of the results obtained by Fuidge, Murch, and Pleasance (*Inst. Gas. Eng. Comm. No.* 223) suggests that the "dead spaces" obtained by the method of Garside, Hall, and Townend (*Inst. Gas. Eng. Comm. No.* 245) cannot be applied to burners.

Fuidge and his co-workers investigated light-back while using a long straight burner tube, the Reynolds Number being at most only a few hundred. Hence the flow was presumably streamline, giving a parabolic distribution of velocity across the tube in accordance with the Hagen-Poiseuille formula. Thus, it is possible to calculate the mixture velocity at the dead-space distance from the wall for comparison with the flame-speed. This has been done in the following table, and the lack of agreement between cols. 5 and 6, or between cols. 4 and 7, suggests that the theory is incomplete.

Gas.	Air/Gas Ratio.	Average Mixture Velocity at light-back. cm. per sec.	Limiting Diameter *i.e.*, twice dead-space. mm.	Mixture Velocity at dead-space distance from burner wall. cm. per sec.	Flame-Speed. cm. per sec.	Limiting Diameter, calculated from cols. 3 and 6. mm.
1	2	3	4	5	6	7
CO	1.0	73	5.3	137	40	1.0
	2.0	44	2.3	48	40	1.9
H_2	0.5	63	3	85	140	>.7
	4.0	335	1.5	260	70	0.4
CH_4	9	30	3.5	45	35	2.5
C_2H_4	11	27	4.0	36	30	2.3
	8	30	3	40	30	2.1
	12	138	1.9	130	65	0.9
	16	94	1.9	88	30	0.6
A town gas of CV 500*	3	45	2.2	81	80	1.8
Source of Data	Comm. No. 223	Calculated from Comm. No. 223	Comm. No. 245	Calculated	40th Report J.R.C.	Calculated

* Agreement possibly fortuitous. The gases in cols. 2, 3, 4, and 6 were not identical.

In many practical burners the flow through the flame port is turbulent, so that the velocity is more nearly constant across the burner tube, and only drops appreciably very close to the wall. In this case the dead-space should have less effect, and the average mixture velocity at light-back should approximate to the flame-speed.

Mr. **L. T. Minchin** (Gas Light & Coke Company) wrote: This work increases our knowledge about that fascinating phenomenon the bunsen flame. I feel, however, that the Authors have made an assumption which is hardly justifiable in taking the distribution of velocity across a burner mouth to be parabolic in character. It seems now to be generally agreed that even in flow which is definitely laminar in character a "square-headed" distribution is far more common.* Even if the experimental burner has a parabolic distribution, it is very unlikely that this will be true of any ordinary burner. This may explain the discrepancies shown in fig. 21, and may also be the reason why every burner does not light-back at the periphery of the burner mouth.

In this connexion I am of the opinion that the usual place at which a bunsen cone begins to light-back is not, as the Authors state, at the periphery, but at the apex. Curiously enough, this point arose in the discussion on the Paper I presented to the Illuminating Engineering Society in May, 1940, and in my reply I made the experiment of throwing a shadowgraph of a bunsen flame on to the screen and causing the flame slowly to light-back. Most of the people who witnessed this experiment agreed that the downward movement of the flame began by the involution of the cone apex—rather like the toe of a sock being pulled inside out. If this is the case, it is difficult to see what connexion there can be between "dead space" and "light-back." Can it be that the burners used in these experiments at Leeds are so long, smooth, and parallel that they behave differently from ordinary burners because their velocity distribution is different?

* Andrade, E. N. da C., and Tsien, *Proc. Phys. Soc.*, 1937, **49**, 381. Prandtl and Tietjens (1934), p. 54.

[No. 245]

Mr. **L. T. Minchin** (Gas Light & Coke Company) wrote: Attractive as is the idea that limiting diameter is simply double the dead-space, I cannot feel that this has been proved beyond doubt by the facts put before us in this Report. It is highly probable, in the nature of things, that similar factors influence both phenomena, since they are essentially the same. The table which seems to be missing from this Report is one giving, in one column, the "limiting diameter" for different gases, and, in the other, the measured "dead space" multiplied by two.

I am puzzled as to why the Authors interpret fig. 7 so laboriously. This seems to me to indicate that ethylene addition has no effect other than the lateral shift, which, in almost any combustion property, would be expected from a change in calorific value. It seems probable that benzene addition—had it been carried further—would have shown precisely similar results.

This work would, however, deserve very ill of the Gas Industry if it led to the adoption of "dead space" as a criterion of gas quality in place of, say, the A.T.B. Number. A moment's thought will show that "dead space" can only be an effective criterion of "light-back" tendency (*a*) at air-gas ratios near the "theoretical," (*b*) for burners fitted with "flame-proof" burner heads, neither of which conditions ever applies in the case of ordinary domestic appliances.

I have some experience of designing burners with perforated heads of limiting diameter, as referred to at the end of Section III. As the Authors indicate, heating-up is one of the great difficulties. So far it has made operation at stoicheiometric proportions almost impossible —one cannot prevent "flash back" if the perforated plate is heated over the ignition temperature. At about 50% excess primary air the burner head remains cool—but every burner has to be capable of being turned down, and turning down always drops the aeration, so that before long the burner head is white-hot and "flash back" ensues.

"Blow-off" is another fascinating problem, and one which, until fairly recently, was totally unexplained. Two years ago, I drew attention* to the problem, and propounded a tentative explanation based on the continuous re-ignition of the primary mixture at the cone base by the gases in the secondary flame envelope. This is confirmed by the fact now recorded that separated flames show a much greater tendency to "blow-off"; it has long been known that fully and over aerated flames were much more liable to do so. The arrangement for separating the cones must, as a rule, lead to vortex-ring eddies round the burner mouth, and presumably these are the agencies by which continuous re-ignition is secured.

In conclusion, the remark on p. 28 of the Report that the use of a grid serves to increase turbulence, and thereby to improve stability, calls for some comment. Surely the most effective of such grids is that which consists of a "honeycomb" grid of considerable depth, just like those used in wind tunnels to remove turbulence. Such devices are known as "straighteners" in American literature because, by providing a bundle of long thin channels they remove eddies. Experience seems to show that turbulence is usually the enemy of flame stability.

Mr. **C. Pearson** (Gas Light & Coke Company) wrote: I think the Authors would be interested to learn of an incidental practical application of the theory of limiting diameters.

During periods of cessation of gas supply it is not uncommon for unskilled persons to test for resumption of supply with a naked flame at teat-nosed testing cocks or $\frac{1}{8}$ in. pressure nipples on the meter connexions. Several explosions at meters have resulted, some fatal. When considering the problem recently I had occasion to recommend —from the curve of J. H. Holm—that the orifice of all pressure testing points at meter connexions should not exceed 1.5 mm. diameter. I was surprised to learn from the calculations I made at the time that a gas pressure of less than $\frac{1}{10}$ in. W.G. would prevent such explosions.

* Minchin, L. T., Densham, A. B., and Wright, J., *Trans. Illum. Eng., Soc.*, 1940, p. 75.

Laudatory Comments on Refractories

[Gas Research Board Communication No. 5]

Emeritus Professor **J. W. Cobb** (Leeds) wrote: In the 2nd Report of the Council of the Gas Research Board appreciative reference is made to the services of Dr. H. G. Colman on his resignation from the

Refractory Materials Joint Committee, of which he had been a "member since its inception in 1910." This Joint Committee was one of the earliest and most successful examples of collective research, the principle of which has been applied so widely since that time by the Department of Scientific and Industrial Research, and it has to begin and continue by reconciling the interests and standards of two great industries, one supplying and the other using refractory materials. The pressing need for improvement and standardization had been urged in a striking Paper by F. J. Bywater, and the first work of the Committee was to determine and maintain quantitative criteria of quality which could be accepted and applied, with suitable modification, as technique developed with time. To do this required a high degree of skill, and particularly patience, on the part of all concerned. The late Dr. Mellor (assisted and now succeeded by Mr. A. T. Green) must have put in countless hours of rather tedious work, and its success was dependent upon the backing it received from the Committee and the two industries concerned. Here came into prominence the part played by Dr. Colman over such a long term of years as Chairman or member of the Committee, and esteemed by all for fair judgment and scientific competence. He can rightly look back with pride to the outcome of his work. I pay my own tribute as one who was for some years a member of the Committee, and all the time concerned with the manufacture, use, and investigation of refractory materials. This combined experience has made me fully conscious of how much is owing to Dr. Colman's work and how memorable is his achievement. There is, it will be agreed, no member of the Committee who has given to it, and to Dr. Colman, more consistent support and valuable assistance than Mr. Rhead, and his succession to the chairmanship should go far to ensure continued success and expanding usefulness.

The 32nd Report of the Committee is evidence of its varied activities. The peculiar virulence of sodium chloride, already fully recognized by the coke oven industry when I presented a Paper on the subject to the Coke Oven Managers' Association in 1916,* is still providing material for research, and the part which can be played by chlorine is rightly receiving separate study. That some beneficial result may be forthcoming from the volatilization of iron as chlorine is interesting. I may call attention, if necessary, to the thin bleached layer which is often plainly visible under the salt glaze on fireclay. I have not analyzed it, but presumably iron has been volatilized from it.

There has always been a lack of precision, as explained in the Report, in the results (and their interpretation) obtained by the underload test on refractories. In what is referred to as the pioneer work of Dr. Roberts and myself, the torsional test was demonstrated to have the greater precision which was expected from it. By its use the temperatures were determined at which different substances became plastic, so that they would warp instead of cracking (to use the simplest possible terms) under internal or applied stress. But the effects are complicated as soon as elastic recovery and the time factor are studied and the analysis of the total torsional effect into its components, now under investigation by Mr. Green and his collaborators, should prove an interesting problem with difficulties of its own. I cannot help wondering whether the porcelain body is not too complex for this purpose until results have first been obtained from a comparatively simple substance like kaolin, results which should themselves be simpler and aid in the interpretation of the more complex. In Norton's extensive and useful work this mode of approach would probably have been of little service, but the position is different when the torsion test is used.

Mr. **Frank West** (Fiden) wrote: "Unshaken keenness and efficiency" is the keynote of this Report, which has maintained its high scientific standard in spite of difficulties imposed by the vicissitudes of war. New avenues of research have been opened and much valuable information has resulted from the further investigations along familiar paths.

Of particular interest, in view of the present campaign for fuel economy, are the reports on refractory materials for gas and coke-burning appliances and those connected with the manufacture of efficient dry-pressed insulating refractories.

The opening of a new line of attack on the behaviour of refractory materials under stress at high temperatures will be of interest to many, and the data obtained should enable another portion of the pattern to be fitted into the complete mosaic of data required before full appreciation of stress effects on refractories at high temperatures can be gained.

The effects of gases and alkalis have received further consideration, with results of obvious value to the Gas Industry, and it is interesting to have the results of laboratory research work on alkalis neatly substantiated by an actual example from the carbonizing industry.

Confidence in the future of research in refractory materials is stimulated by the steady progress which is being made in those long-term investigations of fundamental problems which are vital to industrial progress, and by the presentation of data capable of immediate industrial application in fields where greater efficiency in the use of fuel and refractories will be ensured.

(*To be continued*)

* "Refractory Materials and Salty Coal," *Gas World*, 1916, 64 (Coking Section, April 1).

TOWN GAS AND KINEMATIC VISCOSITY*

By ARTHUR COE

(*Continued from vol. 237, p. 437*)

It follows also from these facts that equilibrium may be attained in the inner cone of bunsen flames with any conceivable distribution of velocities across the stream. That is, the inner cone shape may be of any size or it may be reduced to a flat disc, or it may even be reversed. This is in agreement with experience.

We can now consider the phenomena which occur when a bunsen flame becomes unstable. These are flash-back and blow-off.

When a combustible mixture of gases in a tube are ignited the flame flows through the mixture. If, then, the initial pressure of the flow system in an atmospheric gas burner be reduced, due to a change in kinematic viscosity, to the point where the pressure drop in the system is less than the resistances to be overcome, the mixture will come to rest and the flame will flow back through it. This is flash-back. If this be true flash-back should occur at a critical value for the mass rate of flow—that is, at a critical value of the ratio of the velocity of flow, v, to the kinematic viscosity, for the mass rate of flow varies directly with the velocity and inversely as the kv or v/ν. The flame has also to pass, in the diffusion-state characteristic of a gas at rest, into a tube the circumference of which varies directly with the diameter. If, therefore, in given circumstances we double the diameter, the restraining effect will be halved. That is, flash-back may be expected to occur with a critical value of $v/d\nu$.

This expression resembles Reynolds constant, but Reynolds constant does not apply, because the air-gas mixture is stationary when flash-back occurs.

Fortunately data exist which enables this hypothesis to be checked. This is from an American source, and will be found in §346 of vol. ii of *The Science and Practice of Gas Supply*.

The same mixture was used throughout these experiments, so that the kinematic viscosity was constant. We can, therefore, adopt any value for the kv without invalidating the conclusions to be drawn. Taking kv 0.2 (c.g.s. units) and the figures given above we have:

The two diameters were 3.33 cm. and 1.92 cm. respectively. The approximate velocities of flow v at flash-back were 107 cm./sec. and 61 cm./sec. respectively.

Hence—

$$(1)\ \frac{v}{d} = \frac{107}{3{\cdot}33} = 32{\cdot}1, \text{ and } \frac{v}{d\nu} = \frac{32{\cdot}1}{{\cdot}2} = 160{\cdot}5.$$

$$(2)\ \frac{v}{d} = \frac{61}{1{\cdot}92} = 31{\cdot}7, \text{ and } \frac{v}{d\nu} = \frac{31{\cdot}7}{{\cdot}2} = 158{\cdot}5.$$

This agreement is extraordinary.

Turning next to blow-off. Here the mass rate of flow is such that equlibrium is impossible between the mass rate of flow of the mixture to the flame, and the mass rate of flow of the products away from it. The flame is therefore blown from the burner and extinguished. This will occur at a critical velocity of flow of the gases leaving the burner tube. That is, blow-off might reasonably be expected to occur at a critical value for Reynolds constant vd/ν.

In the experiments under view only v and d were changed, so that for this to be true, the product vd should be the same in each experiment. The figures quoted give the following results:

Approximate rates of flow v at blow-off.	Value for d.	Value for vd.	Value for Re.
457 cm./sec.	3.33 cm.	1521	7605
701 cm./sec	1.92 cm.	1346	6730

Approximate agreement requires the following values for (2):

790 cm./sec.	1.92 cm.	1517	7580

When the relatively small variation in resistance to flow as given by the Stanton curve for these different values of Re is taken into account and the difficulty of noting the precise point of blow-off, it may be that agreement is indicated.

From these observations it thus appears that:

(1) The flame will be blown from a bunsen burner if the initial pressure of its flow system rises to the point where the mass rate of

* Author's abstract of a Paper to the Scottish Junior Gas Association (Eastern District).

flow cannot be effectively balanced at the flame front. This will occur at a critical value for the criterion vd/ν.

(2) The flame will flash-back into the burner tube if the initial pressure falls to the point where the pressure drop is not sufficient to maintain flow against the resistance to flow of the mixture and of the burner. This will occur at a critical value for the criterion $v/d\nu$.

(3) As the expression for the calculation of the velocity of flow includes the length of the tube, L, the critical values for the criterion of flash-back and blow-off will vary from one burner to another with the internal diameter and the length of the tube. (Actually a variation of 0.00375 in. in the internal diameter of a burner tube of normal diameter 0.375 in. will affect the value of Reynolds constant by 1%.

Consider the phenomenon known as the oscillating inner cone.

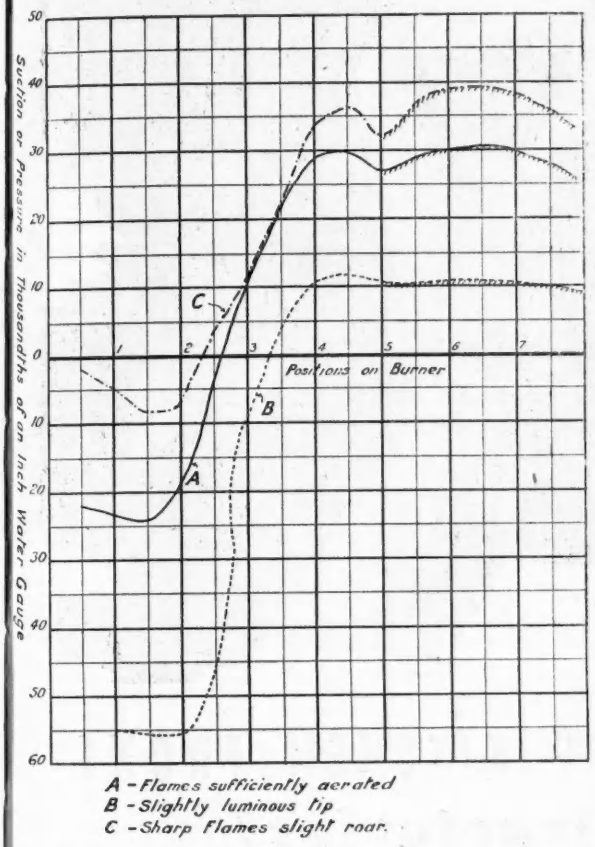


FIG. 4.

Since flash-back occurs with a critical value for the criterion $v/d\nu$, an increase in d, with the other factors constant, will lower its value. We know that increasing the diameter of a flame orifice does not increase the stability of a flame, but the reverse. We therefore approach the critical state for a given burner as the value of this criterion falls, and since the diameter of the base of the flame is greater than the internal diameter of the burner tube or flame orifice, the critical state will be reached first at the base of the inner cone. In these circumstances the flame will tend to pass back into the tube, only to be thrust back again due to the rise in the value of $v/d\nu$ due to the change in d. This is the explanation of the oscillating inner cone.

It also follows from points (1), (2) and (3) above that apart from the requirements in burner design essential to secure constant air-gas ratios at all rates of flow, the difference between the critical values of the criteria of flash-back and blow-off for different burners will be known if the factors v/d and vd at a standard pressure are known. In other words, if the critical values of these criteria are known for a standard burner at a standard pressure at the injector orifice *for a given gas*, they can be calculated for every other burner in use *for the same gas* which has the characteristics previously defined.

The co-ordination of the existing facts and data achieved in this inquiry thus indicate:

(1) That the combustion characteristic of any combustible mixture of gases is its kinematic viscosity. Just this and nothing more.

(2) That this work should be checked up as quickly as possible, and if confirmed the Industry should proceed to standardize the kinematic viscosity of the gas supplied.

(3) That all gas burners should have the following characteristics:
- (i) A standard injector orifice.
- (ii) A standard Venturi mixing tube.
- (iii) A fixed distance from the injector orifice to the Venturi throat.
- (iv) No primary air shutter.

The design will, of course, differ somewhat for different classes of appliance, as different air-gas ratios will be required to secure the appropriate type and size of flame.

(4) That sufficient is known of the design of atmospheric gas burners which will maintain a constant initial pressure at the throat at all rates of flow, and also a constant air-gas ratio under these conditions, to make the standardization of these burners possible.

The control of the kinematic viscosity can be attained by controlling the inert content of the gas, for $k\nu$ is the absolute viscosity divided by the density.

The following are typical values of $k\nu$ for fuel gases (20° C. and 760 mm.).

	c.g.s. units.	f.p.s. units.	
Horizontal retorts	0.252	0.0002713	271.3
Continuous vertical retorts (no steaming)	0.256	0.0002756	275.6
" " " (steaming)	0.242	0.0002605	260.5
Blue water gas	0.246	0.0002647	264.8
Carburetted water gas	0.191	0.0002055	205.6

The f.p.s. unit could be multiplied by 1 million to give the scale of numbers set out in the last column or the c.g.s. unit multiplied by 1,000 will give an equally useful scale. Incidentally the $k\nu$ of hydrogen at 15.5°C. and 760 mm. is 1.06 (c.g.s. units). That is at the root of the c.g.s. scale is hydrogen with a $k\nu$ very nearly 1.

The Industry is at the moment very much concerned with the question of adopting a standard calorific value. But every gas engineer knows that calorific value is not the controlling factor in combustion phenomena. What then does it control? And how does calorific value fit in with the hypothesis that kinematic viscosity is the factor the Industry has been searching for so long? The point here is that calorific value affects only the temperature and therefore the size of the flame as well as the heat output of a given burner *with a given mixture* in a given time. It does not affect the stability of the burner. It can, however, affect the combustion standards of appliances if the flames are not of the size required in a particular appliance.

The view has been expressed that the supply of gas of different calorific values in different localities is the first barrier to progress through regional planning. Is it? Here, as Professor Joad would say, it just depends what you mean by regional planning. In this country there is a wholesome dread of uniformity and regimentation, and experience indicates that bureaucratic regional planning would inevitably develop these characteristics.

I suggest that the greatest barrier to regional planning is not the need for a standard C.V., but the fear that in this way lies regimentation, the limitation of individual freedom and enterprise, and the imposition of a rule-book. The remedy for this lies in the removal of this fear, not by promises, but by a scheme, regional or national, which will effect co-ordination without regimentation. That is, by a scheme which everyone can understand and in which the precise significance of each step is made clear.

In 1926 a scheme was prepared for the development and co-ordination of electricity supplies on the basis of a progressive increase in the use of electricity from 110 units per head in that year, to 500 units per head in 1940.

Suppose now that the scheme for co-ordination in the Gas Industry was to be for a progressive increase in the use of gas which will double the sale of gas in the first 10 years after the war. What then would be the approach to reconstruction? As I see it, it would be:

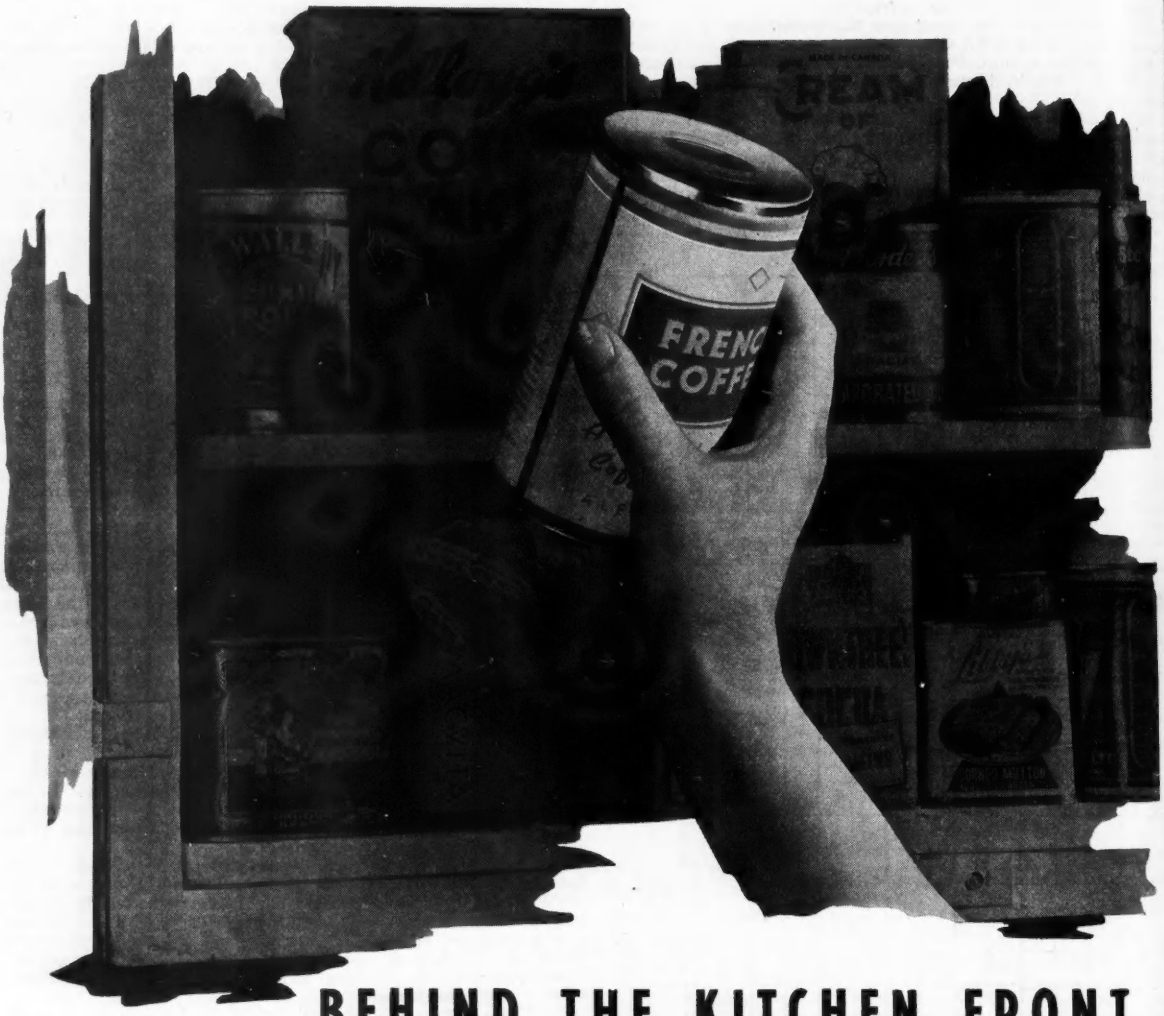
(1) An immediate concentrated effort to prove or disprove the hypothesis that kinematic viscosity is the measure of gas quality. If proven, the second step would be—

(2) The adoption of a standard $k\nu$ for the whole country, with means for the control of inerts to make this effective within established limits. This done,

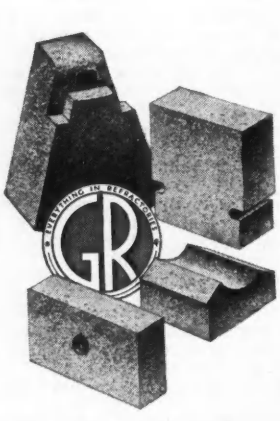
(3) The design of burners would be standardized, as electric lamps and resistances are standardized (as regards performance) for the whole country within limits determined by—
- (*a*) The permissible pressure variation at the injector orifice to obtain a given heat input.
- (*b*) The number of permissible standard orifices for use with each burner, or their equivalent.
- (*c*) The combustion standards of appliances.

It should be clear that we cannot standardize appliances. We can only standardize the performance of them. This can be done only by standardizing burners and setting up universal combustion standards for each class of appliance, for it is obvious that competition will compel continuous changes in general design, appearance, and finish, whether we like it or not.

(4) Then would follow a standard range of calorific values within the limits imposed by (3), and this would be enforced if necessary. The permissible range is likely to be rather surprising. The indications are that it will be not less than 50 B.Th.U. gross per cu.ft.—*i.e.*, 25 B.Th.U. above and below the basic standard used in burner design.



BEHIND THE KITCHEN FRONT
—*Refractories!*



THE canning industry enables us to preserve seasonal produce for consumption throughout the year, and sheet metal manufacture requires refractory materials. To the cement industry, which supplies cement to build silos for the storage of grain, refractories are indispensable. The gas and electricity consumed in millions of kitchens are both cradled in refractories. Food transportation begins with the generation of heat in refractory-lined fire-boxes of steam locomotives.

The provision and maintenance of refractory structures is a substantial item in production costs. The life of refractories is, therefore, of prime importance and is so regarded by the G.R. organisation. To reproduce—by the hundred thousand—refractories which are the nearest practical approach to constant uniformity in quality is no light task. Every process employed in their manufacture is strictly controlled and close attention is paid to their behaviour in service. The success of the G.R. policy in maintaining so high a standard is shown by the world-wide use of G.R. materials and their commendation by engineers in every industry.

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(5) You cannot double the output of gas without facing up to a possible doubling of the output of coke and residuals. Some control of this factor is provided by (4), but it is obvious that the marketing of coke and residuals will be a matter for organized selling, and this will involve standard grading.

(6) The tests of amalgamations, joint workings, and so forth, would be:
  (*a*) Will the service to the consumer be improved?
  (*b*) Will the price of gas be reduced and sales increased?
  (*c*) Will the commercial enterprise be greater or will a mere consolidation of the existing position result? And sometimes—
  (*d*) Will an undertaking whose capital has been "milked dry" be given a new lease of life without increasing the price of gas, as a first step to becoming a progressive enterprise again?

(7) The sulphur question would cease to be one of whether all the sulphur in the gas should be removed or not, but one of how quickly this state of affairs could be brought about, and by compulsion if necessary. It is surely the height of folly to market a product which provides competitors with their most effective sales talk (fumes in this instance), and then to spend time and money trying to offset this disadvantage. The only sensible thing to do is to remove this "smell from the landing" once and for all, and make its abolition the basis of our own sales drive.

There are thus two lines of approach to reconstruction. The point for us is which is it to be? Consolidation so far as the competition of the electricity and coal trades will allow, or the adoption and prosecution of a far-sighted progressive commercial enterprise?

(*A report of the discussion will be published subsequently*)

Midland Counties Coke Association

THE Annual General Meeting of the Midland Counties Coke Association was held at Birmingham on March 26 and was well attended. Among those present were Messrs. A. W. Smith, Chairman; F. C. Briggs, Deputy-Chairman; and A. H. Cranmer and J. Mitchell, Members of the Emergency Committee. Messrs. G. Dixon, A. J. Morris, R. S. Ramsden, A. Roberts, and A. G. Williams were also present.

The Chair was taken by Mr. A. W. SMITH, who gave a report of the coke position during 1941 and the part taken in it by the Association. He remarked that the objects of the Association, in spite of war conditions, remained the same. As far as these conditions allowed, it had been their endeavour to promote the use of coke, to co-ordinate and regulate its price, and to provide (through their arrangement with the Technical Department of the London & Counties Coke Association) services in regard to technical research, information, and publicity.

The war had restricted some of the purposes for which the Association was founded, principally those of providing its own price regulations, of exploring new markets for coke, and giving attention to its commercial aspect. But it had also extended the work of the Association to a greater degree than expected. They had 112 producers of gas coke in the Midland area, and on the other hand were the Mines Department and all the numerous officials of that and other Ministries who had become part and parcel of the everyday coke business of those producers. The Association endeavoured to form a bridge between one and the other.

The area of the Association remained the same, and during the year they had been pleased to welcome four new members.

The Chairman, who mentioned that the Agreement constituting the Association had been extended for a period of five years from January, 1941, went on to say:

"The coke supply position was an extremely difficult one for most undertakings throughout the whole year. We started 1941 with a shortage which the severe weather and lack of transport facilities made more difficult. This position continued into the summer, but a mild autumn found most of us at the end of the year with high stocks. This was not the result of a slackening in the demand for coke, but was brought about principally through lack of labour to handle the coke and insufficient transport, particularly by road, to get it away from the works. The labour problem has been acute in some cases.

"The Mines Department have become concerned about road deliveries of domestic fuel, and have instructed Local Fuel Overseers and officials of the House Coal Distribution (Emergency) Scheme to get together and tackle the problem of uneconomic deliveries. Gas Undertakings have been asked to co-operate in this drive by effecting the greatest possible economy in their own distribution methods, and by arranging to be represented on the local Committees set up to deal with the matter. I do not think gas undertakings can do very much more than they are already doing, particularly as delivery from the producing centre to the consumer is the most direct, but representation should certainly be sought on the local Committees and co-operation offered. The scheme provides for an exchange of customers between merchants if the present arrangements are considered by the Local Fuel Overseer to be uneconomic. An interchange of coke customers between producers and merchants is not likely to be necessary, but the Local Fuel Overseers have the power, under the Fuel and Lighting Order, to effect such an interchange."

Mr. Smith then made brief mention of the recently announced scheme for a general rationing of fuel. He said that with the coming into operation of the new benzole plants new outlets for coke might have to be sought, and in this connexion he mentioned various opportunities that were presenting themselves, including the Government plan for the installation of emergency stationary producers for which certain types of coke could be used. He spoke of the growing strength and importance of the National Federation of Gas Coke Associations, and the serious loss it had suffered when the Chairman, Mr. R. W. Foot, had relinquished his active leadership in November.

"A much needed step was taken by the Federation only a month ago, when a suggestion was made that there should be a Joint Consultative Committee of Coke Producers, with which the Mines Department could get in touch before legislating for coke. This suggestion arose from the issue of a new Fuel and Lighting Order on Jan. 1 without any previous reference to the Federation or to the British Hard Coke Association, although several clauses had a direct bearing on the sale of coke by producers. This Producers' Consultative Committee had now been established, with three representatives of gas coke, Colonel Harold Smith, Mr. Currier, of Bradford, and himself, and three representatives of hard coke.

"With the National Federation firmly established," continued Mr. Smith, "we can be sure that coke is getting its proper representation in all relevant quarters. Mr. Boon, the Technical Adviser to the Federation, is very active in this respect; during the year he was elected Chairman of a Committee set up by the British Standards Institution to deal with specifications for Central Heating plant, and he holds a watching brief for gas coke on other Fuel Committees set up by the Mines Department. Our amicable co-operation with Hard Coke Producers has been maintained during the year. Their national body, the British Hard Coke Association, is fully constituted with a 98% membership. The North Staffordshire Hard Coke Producers have now formed an Association and have appointed a representative on the Joint Committee between the Association, Associated Hard Coke Producers, and the Distributors' Branch. Membership of the Distributors' Branch is now more than 1800."

Mr. Smith then dealt in detail with the subject of coke prices, enumerating the increases granted during the year and since the outbreak of war, and explaining the reason for the arrangement made by the Mines Department in May, 1941, that the price of hard coke sold in the Association's area should be fixed at a uniform differential of 2s. 6d. per ton above the price of the corresponding size of gas coke, together with the repercussions this arrangement had caused and were still causing in various directions. One of the matters which the tying down of hard coke prices had brought into the foreground was that of merchants' margins on coke sales. He explained what had happened in this connexion during the year, and that the outcome had been a request from the Mines Department for each District Coke Association to look into the matter of distribution costs, which was, of course, closely linked up with the question of distributors' margins. A plan to clear up the problem and put distributors' margins on a sound footing had been put forward by the Association; this had been welcomed by the Distributors' Branch and had also been approved (for the Midland area) by the National Federation of Gas Coke Associations. The British Hard Coke Association, however, was finding some difficulty in agreeing to it, and for that reason the matter was held up for the time being. Having explained the plan Mr. Smith said he would welcome the views and suggestion of Members present on the course they would like the Association to take. He then formally moved the adoption of the Report and Accounts.

Mr. F. C. BRIGGS (Deputy-Chairman), in seconding the adoption of the Report and Accounts, said that he had nothing to add to Mr. Smith's report, and he repeated that the principal subjects for discussion were those of distributors' margins and the retention of the "formula" for advancing coke prices as and when there were increases in the pithead price of coal. He hoped members would give the Committee some lead on these two subjects.

Mr. GEORGE DIXON thanked the Chairman for his exhaustive report, which had shown the amount of work which had been done during the year. After commenting on some of the matters dealt with in the report he mentioned the classes which had been arranged for boiler men in connexion with the Mines Department's fuel economy scheme, and expressed his disappointment that coke was not included in the syllabus.

The Next Meeting of the Eastern District of the Southern Association will take place at 2.30 p.m. on Thursday, April 16, at Gas Industry House, when Mr. J. M. E. Webber, Deputy Engineer of the Croydon Gas Company, will open an informal discussion on "Wartime Maintenance of Gas-Works."

The Annual General Meeting of members in Scotland of the Federation of Gas Employers is to be held at the Central Station Hotel, Glasgow, on April 22 at 11.30 a.m., and of Members in Scotland of the National Gas Council, Glasgow, at 2.30 p.m. The annual general meeting of members in Scotland of the British Commercial Gas Association will be held at the North British Station Hotel, Edinburgh, on May 13 at 2.30 p.m.

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Gas Products Prices

The London Market April 6.

There is very little movement in the prices of Coal Tar Products, as many of the usual markets are no longer available and pitch/creosote mixture as a fuel oil has taken their place.

Pitch is still a nominal market, but for such quantities as are being sold the price ranges between about 45s. and 50s. per ton. Creosote is about 5d. to 6d. per gallon. With regard to refined tar the price for next season has not yet been definitely fixed and it is expected that this will come under a Direction to be issued by the Coal Tar Controller. Pure toluole remains 2s. 5d. per gallon under the Ministry of Supply Toluene No. 2 Order. Pure benzole is about 1s. 10d., 95/160 solvent naphtha is 2s. 5d. to 2s. 9d. and 90/160 pyridine remains about 13s. 6d. per gallon. All the above prices are *ex* Makers' Works. Naphthalene prices are unchanged and are in accordance with the Control of Tar Order 1941. The Order refers to maximum prices, and the figure for refined crystal naphthalene in 2-cwt. bags and 4-ton lots is £23 per ton delivered.

The Provinces April 6.

The average prices of gas-works products during the week were: Pitch and Crude Tar,* Toluole, naked, North, 1s. 10d. (controlled by the Control of Toluene No. 2 Order, July 5, which fixes the maximum price at which this material may be sold). Coal tar, crude naphtha, in bulk, North, 11d. to 1s. Solvent naphtha, naked, North, 1s. 9d. to 1s. 10d. Heavy naphtha, North, 1s. 9d. to 1s. 10d. Creosote, *ex* works, in bulk, North, liquid and salty, 4½d. to 4⅝d.; Scotland, 4½d. to 4⅝d.; low gravity, 4½d. to 4⅝d. Fuel Grade, 4d. to 4¼d. Carbolic acid, 60's, 3s. 7½d. to 3s. 9d. Naphthalene, £15 to £20. Salts, drained, £6 to £6 10s.; whizzed 72°, £7 15s.; 78°, £9 5s. Anthracene prices fixed by Controller. Heavy oil: Unfiltered anthracene oil (min. gr. 1,080), 6d. to 6½d.; filtered heavy oil (min. gr. 1,080), 6½d. to 7d.; heavy anthracene oil gr. less than 1,080, 5¾d. to 6d.

*In regard to pitch and crude tar prices we would ask readers to refer to the editorial note on p. 396 of the "JOURNAL" for Sept. 10, 1941.

Tar Products in Scotland April 4.

Market continues firm. Refined tar 5d. to 5½d. home and 5d. to 5½d. per gallon export. Creosote oil: Specification oil, 6d. to 6½d.; low gravity, 7d. to 7½d.; neutral oil, 6½d. to 6¾d. per gallon; all *ex* Works in bulk. Cresylic acid is well looked after. Prices are nominal. Pale 99/100%, 5s. to 5s. 6d.; Pale 97/99%, 4s. 6d. to 5s.; Dark 97/99%, 4s. 3d. to 4s. 6d. per gallon; all *ex* Works in buyers' packages. Crude naphtha: 6½d. to 7d. Solvent naphtha: 90/160 grade 2s. to 2s. 3d. and 90/190 Heavy Naphtha 1s. 9d. to 2s. per gallon. Pyridines: 90/160 grade 13s. and 90/140 grade 15s. per gallon.

Gas Stocks and Shares

Apart from a good demand for Gas Light stocks the volume of business in the Gas Market last week was on a reduced scale. With few exceptions, however, prices generally were in an upward direction, especially those of the fixed-interest stocks. It will be noticed that Derby Consolidated stock has improved 14 points to 112–117, and since the Nottingham List from which the price is taken is not published every week it was not possible to include the correct quotations in the Lists published in the "JOURNAL" of April 1. The stock was *ex div.* on February 9 and the final dividend was 4½%, making 7½% for the year 1941.

The following price changes occurred during the week:

OFFICIAL LIST

Alliance & Dublin Ord.	94—99	+3
Associated Gas & Water Undertakings Ord.	15/—16/-	+-/6d.
Gas Light 3½ p.c. max.	48—53	−2
Ditto 3½ p.c. Red. Pref.	72—77	−1
Ditto 3 p.c. Deb.	80—83	+1
Imperial Continental	49—54	−1
Ditto 3½ p.c. Red. Deb.	87—92	+5
South Metropolitan Ord.	48—53	−2
Ditto 3 p.c. Deb.	77—82	+2
Tottenham 4 p.c. Deb.	85—90	+3

PROVINCIAL EXCHANGES

Derby Cons	112—117	+14
Great Grimsby "A" (*x.d.*)	155—165	Mar. 23
Ditto "B" (*x.d.*)	155—165	"
Ditto "C" (*x.d.*)	145—155	"
Newcastle Units	19/3—19/9	−-/3d.
Ditto 4 p.c. Pref.	85¼—86¼	−1

SUPPLEMENTARY LIST

Romford 4 p.c. Deb. (*x.d.*)	88—93	Mar. 31
Tottenham 5 p.c. Reg. Red. Mortgages	102—105	+4

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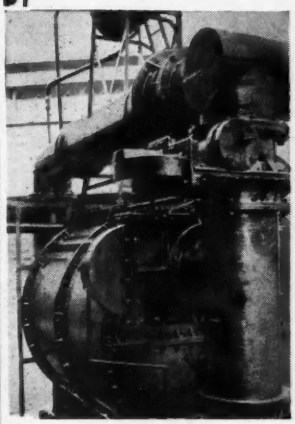

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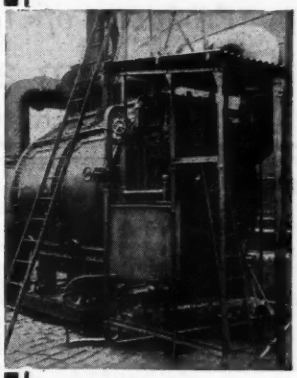

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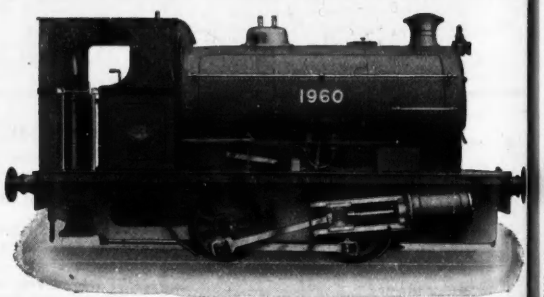

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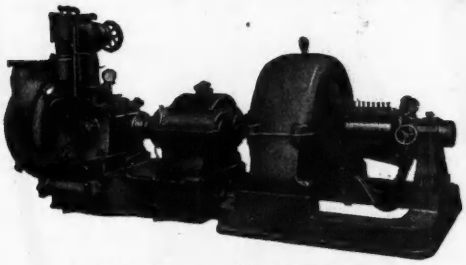

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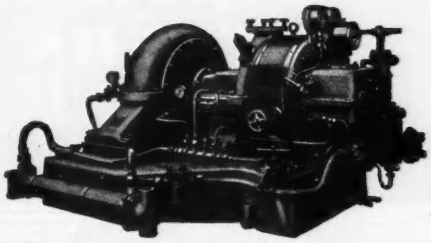

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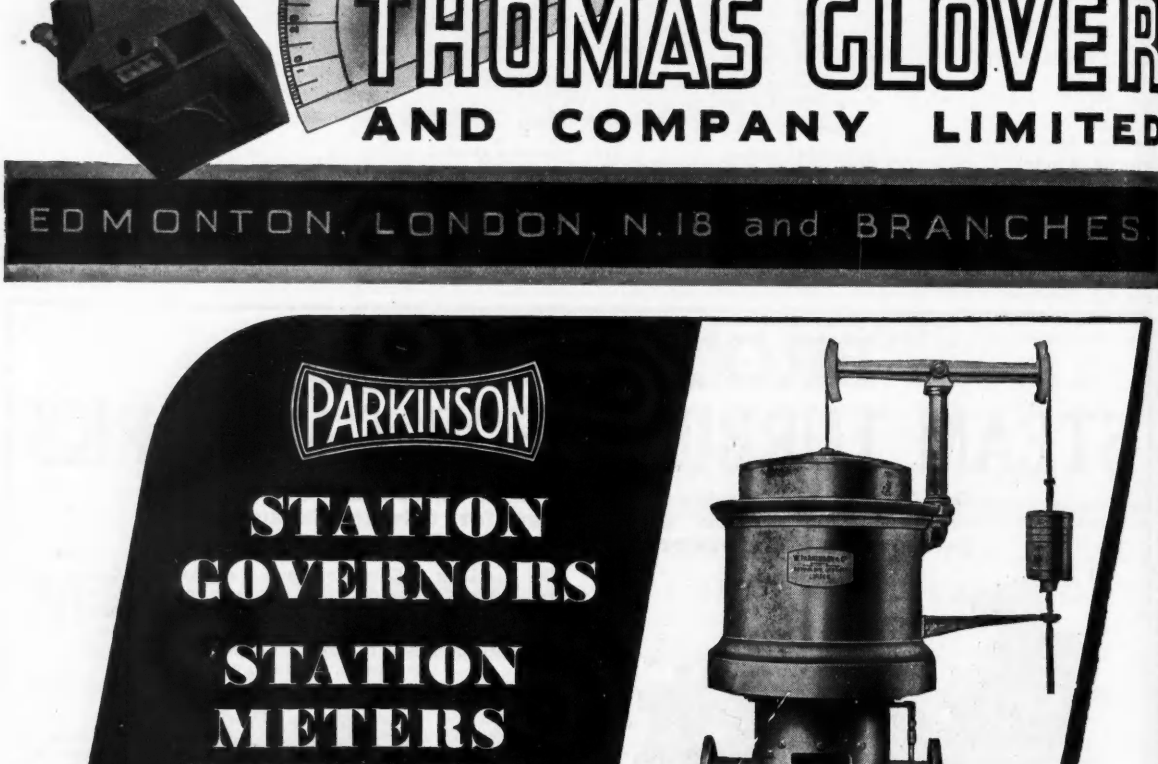

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